

CRANIA IN THE MACLEAY MUSEUM.

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INTRODUCTION.

A year ago Messrs. Lee, Henry and Woodhill asked the writer if he would examine the craniological collection in the Macleay Museum and offer some suggestions or assistance.

The skulls were found scattered in different parts of the Museum, some wrapped in brown paper, some in canvas bags, some lying loose among a variety of other specimens (shells, grass skirts, etc.). The majority of the mandibles were found piled here and there in loose heaps. No catalogue could be found. A heavy coating of dust and other accumulations concealed any identification such as labels or markings on the skulls themselves. Some paper labels which had originally been attached to the skulls were lying on the floor of one cabinet.

The material was first segregated into groups, on the basis of morphological appearance. Then the mandibles were restored to their rightful crania, by comparing texture of bone, relationship of condylar process to mandibular fossa, age similarities, general morphological congruities, and character, colour and fit of teeth.

The crania were cleaned, care being taken to preserve gummed paper labels, ink, or pencil inscriptions or numbers as they emerged from the coating of grime. Eighteen of the crania had no attached documentation of any kind.

The literature was searched for data relevant to the labels or inscriptions remaining. The inscriptions in some cases required translation from Russian to English, and the geographical location of these inscriptions (village names) had then to be discovered.

The frontal regions of the skulls were then marked with consecutive numbers in Indian ink, a typed card index was provided, and the collection set up in two large glass display cabinets, where comparison and contrast of the geographical groups can be seen at a glance.

A catalogue of the crania is appended, recording the original data—i.e., serial numbers, paper labels, ink and pencil inscriptions, symbols—that accompanied each skull. This is followed by comments for further identification.

The collection now consists of one hundred and twenty-nine crania (including fifty which are complete with mandible), three full skeletons, two mummified bodies, and thirteen mandibles.

Among the best preserved skulls are twenty of ethnological interest in which over-modelling with clay or fibre, or integumentary mummification has been attempted.

Five of the crania must remain in the category of "unclassified". Four have the base missing and gaps near the bregma and suggest head-hunting trophies. Two have gaps in the temporal bones and a missing base suggesting artificial procedure of a cannibal or ritual nature. Two show pre-mortem trauma with healing. Twenty-seven are artificially moulded (deformed) skulls.

In order that the documentation of these crania may be as complete as possible, considerable research into their past history has been undertaken. Reviews of the history of the collection as a whole and of any later references to them in the literature are first presented as part of the evidence on which is based their individual documentation. Also an attempt has been made to establish the story of these skulls particularly in relation to their collectors. In this latter aspect it is necessary to indicate that Maclay (Baron Nicolai Nicolaevitch Miklouho-Maclay) and Macleay (Sir William Macleay) are two separate and distinct identities. Although contemporary and sometimes working together in the same place and on the same material, they were not related, and a careful distinction between Maclay and Macleay must be kept in mind.

This paper purports to be no more than a superficial record of cranial material. Nevertheless its preparation has consumed nine months of spare time and involved many searches through literature in various languages, often without any relevant information resulting.

The writer thinks the paper has some value in putting on record material which has never been fully catalogued and which, for the past fifty years, has been almost completely overlooked. The material would undoubtedly have been used by anatomists and anthropologists during that time had its existence been known and data relevant to it available.

ANALYSIS.

Apart from entries in Sir William Macleay's private diaries or journals of additions received, the only effort in the past to preserve the identity of the crania has been (1) the writing of a place name on the skull, which may have been done by the original collector; (2) the affixing of labels Sie XIII, 1644-1669, probably between the years 1875 and 1888.

It is very obvious that some selection was made and that twenty-six skulls were serially labelled and placed on display; the remainder were consigned to obscurity and ignored. Labels in a more or less semi-legible and tattered state have remained on 26 of the selected crania, Sie XIII 1660 being one not found, although two appear to have the label Sie XIII, No. 1659.

Eleven skulls have pasted above the glabella a 1.0 sq. cm. label with a legible or partly legible number. Another eighteen have in the same situation a 1.0 sq. cm. area bearing traces of gum or a shred of paper where a similar label was formerly attached. Twenty-six of them bear Miklouho-Maclay's handwriting. There are a further ten skulls carrying Miklouho-Maclay's handwriting. Crania Nos. 73 (label 49) and 74 (label 50) are two heads identified as Maclay's embalmed Chinese and Malay who were hanged

in 1880. Cranium No. 3 (label 37) is a curious specimen in which squamous occipital, parietals and temporals have been removed by disarticulation at the sutures, and the facial skeleton has been decorated with clay ochre and fibre. The technique differs rather from that of Darnley and could possibly be from New Ireland. Cranium No. 72 has its inscription printed in English script and there is nothing to identify its collector or donator.

Twenty-four of these skulls carry a year alongside the place name which coincides with the date of Maclay's expeditions to the regions named, but none of them has a Sic XIII No. . . . label attached to it.

It appears fairly certain, then, that the fifty Maclay skulls presented by Lady Maclay in 1889 were numbered 1-50 by Miklouho-Maclay himself. After being accepted by the Macleay Museum they were probably neither catalogued nor exhibited, but stored out of sight in cupboards, where their numbered paper labels fell off, and their inscriptions gradually became obscured by dust. Forty of these can now be definitely identified and one more probably.

Twice Miklouho-Maclay lost specimens. In January, 1880, when he transferred from the *Sadie F. Caller* to the *Ellangowan* he left his collection in the former ship and half of it was lost, apparently consisting of skulls from Noumea, Loyalty, New Hebrides, Solomons, New Ireland and the Admiralty Group.

There is no record of what cranial specimens Miklouho-Maclay had in the Garden Palace, but whatever they were, all were lost in its destruction by fire in 1882.

Maclay often found himself unpacking collections about which he had forgotten—for example, the three skulls obtained in December, 1872, from Englam and Bongu (Maclay, 1874, p. 246). In 1885 he unpacked a lot of accumulated material which included the fifty skulls presented by Lady Maclay. It seems probable that the Luzon, Cebu, Sulu, Timor, Solor crania (Nos. 39-45) belong to his 1873 expedition to the Philippines and subsequently via Timor to the south-west New Guinea coast.

The Englam, Sangdinbi, Sambul, Bongu, Gorendu, Bili Bili skulls belong to the 1876-77 second sojourn on the Maclay coast of New Guinea. The Ninigo, Andra, Erub, Mabiak skulls belong to his 1879-80 voyage through the Melanesian islands, Torres Strait, and south-east coast of New Guinea. The Balonna skulls and the embalmed Chinese and Malay heads belong to the 1880-81 Australian period of research.

HISTORY.

It would appear that historically the existing material falls into four sections:

1. An original few skulls represented by the massive rugged skull No. 66, marked "Old Collection", which is undoubtedly an Australian aboriginal cranium. No labels, numbers, documentation or record accompanied these.
2. About seventy crania, the product of expeditions or the donations of collectors. Examples are skulls from Darnley, Derby, Darwin, Cape York, Fiji and Mallicolo.
3. Occasional crania donated singly or in pairs. Examples are two Australian skulls, one collected at Bondi by Mr. O'Brien and another obtained via the Nicholson Museum; also skull No. 62 from Bega, exhibited by Masters, and skull No. 59, dated 1924.
4. Fifty skulls which had been collected by Miklouho-Maclay.

The interest of the curators in the Macleay Museum has always been, and is still, predominantly entomological. The least emphasis has been on human skeletal material. This makes the lack of any deliberate recording or cataloguing of these crania easier to understand.

Absence of such documentation as precise locality, tribal affinities, genealogy, time period, age at death, mode of death, etc., takes from a skull almost all its value. Without the data that have been collected, correlated and interpreted in this paper the Macleay crania have unidentified curio value only.

PRESENT STATUS.

The collection now represents value in the following terms.

The Miklouho-Maclay skulls are unique historical relics of an extraordinary man. It is doubtful whether an equal number of any of his specimens in any of his fields of enquiry exists elsewhere in the world. It is also a link with early Australian and with the early days of the Linnean Society of New South Wales.

The entire collection is unique in its historical associations in similar, though perhaps less spectacular terms. A collection of 129 crania, of which 124 are reasonably documented and classified, though small, is by no means to be despised.

It is worth observing that the Anthropological Section of the Anatomy Department, University of Sydney, contains only 447 skulls, of which approximately 330 have reasonable documentation (Macintosh, 1948). The huge collection of the Royal College of Surgeons, London, was destroyed by bombing during the 1939-45 war. The Tasmanians became extinct as recently as 1876, yet no more than 200 authentic Tasmanian crania exist in the world's total collections (Wunderly, 1939, p. 306).

During the nineteenth century crania of many native races were obtained by trifling purchase and traded as curios—tattooed Maori heads for example. Today customs export and import barriers have become rigid; international conventions prescribe burial for the fallen in battle; legislation aims at the prevention of most aspects of native exploitation; Western Australia has declared her native regions out of bounds; New South Wales has at least partial prohibition of the excavation of native burial grounds. Native peoples in most parts of the world have become somewhat emancipated, have learned something of White monetary standards, and either refuse to provide, or ask high prices for, their crania.

The scarcity of cranial material is indicated by the fact that the individual work of anatomists and physical anthropologists has been for some years performed on known collections which have already been the repeated subject of scrutiny by a succession of workers. Krause toured the museums of several countries to describe 200 Australian skulls. Hrdlička in 1925 visited the museums of the world to place on record the precise measurements of as large a number of crania as he could find, recognizing that new additions would be few in number. That Hrdlička, when visiting Australia, missed the Macleay crania indicates the obscurity to which they had been relegated (Hrdlička, 1928).

HISTORICAL ASPECTS RELATING TO THE COLLECTION.

ABSTRACTS RELATING TO THE PAST STATUS OF THE COLLECTION.

Sir William Macleay kept his collections in a single building at Elizabeth Bay until 1876, and subsequently in two buildings in the same grounds. His collections did not go to the Garden Palace, but following its destruction in 1882, he presented Linnean Hall, Elizabeth Bay, to the Linnean Society in 1885. The collections were removed to the University building in 1889-90.

University of Sydney. Chancellor's address, 13th April, 1889. Hon. William Macleay. New benefactions:

"... consist of Mr. Macleay's payment to the Senate of the sum of £6000 for a Curatorship in Natural History, and his handing over to the University of his large collection. Both had been promised as far back as 1876 . . . This promise is now carried out, and the Senate has appointed Mr. Macleay's own Curator, at a salary of £300 a year, to remove and take charge of the Collection."

Calendar of the University of Sydney for the year 1890: "In the year 1874, the Hon. W. Macleay, M.L.C., undertook to present to the University of Sydney his collection . . . the collections were, with the exception of the department of Entomology, removed to the University in the beginning of the year 1889."

In the Donations Ledger in the Macleay Museum there are only two entries relating to crania:

"1889. Oct. 17. Presented by Lady Miklouho-Maclay, 50 Human skulls, 1 skeleton of child, several miscellaneous bones (human), 5 Human Tongues, 1 ear and portion of scalp."

"Feb. 15. 1876. Two Fijian skulls—Archibald Boyd."

In Sir William Macleay's 1876 diary volume is an entry referring to "Mr. J. A. Boyd, collecting at Herbert River". In his 1879 diary he refers to Mr. J. A. Boyd of Ripple Creek, Ingham, making collections from the vicinity of Herbert River. Also in this 1879 volume he writes of Mr. A. Boyd of Fiji sending seven consignments from Fiji and the New Hebrides: "Native weapons and implements, and osteological specimens (human) from Fiji, Mallicolo, and other islands." There is mention of the material being too dear, but shortly afterwards he records that purchases were made from Mr. A. Boyd, Fiji—received March 15th.

Fletcher (1929, pp. 267–269) quotes these two entries and makes the additional comment that no further particulars can be discovered.

Dr. Cox in a Presidential Address (25/1/1882) refers to purchases from Mr. A. Boyd, Fiji, on 14th March, of specimens from Espiritu Santo, Solomons and New Hebrides.

It would appear, then, that Mr. J. A. Boyd and Mr. A. Boyd are two separate individuals, as they would hardly be in Queensland and Fiji simultaneously in both 1876 and 1879.

It is reasonably certain that cranium No. 55, marked in pencil as Herbert River, was obtained from Mr. J. A. Boyd, of Ingham; and that crania Nos. 82–94 (Fiji) and Nos. 104–129 (Mallicolo) were purchased from Mr. A. Boyd of Fiji, between 1876 and 1881; while the crania from Viti Levu, Pentecost, Lakoni and Solomons (Nos. 96–103) are probably from the same source.

There are also references in 1879 to material obtained from Mr. Cockerell (Solomons), Mr. A. Goldie (Port Moresby), and Mr. Goodman (Richmond River). Cranium No. 60 (Sie XIII No. 1659), Richmond River, seems a probable link with Mr. Goodman.

The Visitors' Book in the Macleay Museum contains no entry relevant to crania.

Several drawers in the Macleay Museum contain a mass of loose papers and correspondence; a single sheet of manuscript was found, dated 19th January, 1892, unsigned, listing the material in the Macleay Museum. The list mentions the following: "Six human skeletons, 1 Darnley Island and 1 Peruvian Mummy. Two hundred and six Human skulls from Australia, New Guinea, South Sea Is. etc. Ethnological. A fairly representative collection numbering hundreds of specimens from Australia, New Guinea, and South Sea Islands." The handwriting is that of George Masters, then Curator.

The Macleay Memorial Volume, in enumerating the contents of the Macleay Museum, contains the following paragraph:

"The anthropological and ethnological collections include over 200 crania of aboriginal Australians and natives of New Guinea and the South Sea Islands, six entire skeletons of natives of Torres Straits, and many hundreds of specimens of native weapons, implements, and utensils from Australia, New Guinea, Melanesia etc. . . ." (Fletcher, 1893, p. xlix.)

A letter from J. J. Fletcher (11/10/1920) to Mr. Shewan, Curator, requests to see Sir William Macleay's notebook containing his record of the additions to the collections between 1874 and 1876. Fletcher thinks he gave the notebook back to Mr. Masters. He wants to compare the notebook with "Sir William's private Journals for 1874–82 (with some blanks) now in my possession" and not available when the Macleay Memorial Volume was produced. The notebook has not been traced in the present search, but the private journals for "1873–81" have been perused.

Letter from Thomas Steel (26/7/20) to the Curator, Mr. J. Shewan: "Could you inform if circa 1877–79 N. de Miklucho-Maclay deposited specimens illustrative of 'Macrodonatism' in the Museum . . .?"

Answer (29/7/20): "I am unable to find any records of donations to Macleay collection such as you state in your letter. There were no records kept as far as I know until the collection came to the University ten years later"

A letter (25/9/30) from Dr. W. Arndt, Keeper of the Zoological Museum, University of Berlin, asking for information re specimens of sponges collected by Miklouho-Maclay from Kamaka-Vallar, S.W. New Guinea, produced the Curator, Mr. Shewan's reply (10/11/30): "I have had a careful search through our Museum material and records, but found no trace I have also consulted with Dr. Anderson, Chief of the Australian Museum in Sydney, who confirms my opinion that Baron M. Macleay did not give any material to Sydney Museums. He is believed to have sent all his material to St. Petersburg some time before his death, and the boxes are reputed to have been there unopened some years after his death, regretting that I have no further information on the subject."

"Veuillez corriger cette épreuve", dated 1934, from M. de Montessus de Ballore, Directeur, under the proof paragraph headed "Macleay Museum, 1933, University, Sydney (founded 1874—W. Macleay)", gives no mention to crania.

A copy was found of the reply of the Curator, Mr. K. E. W. Salter (30/11/34). The text of this reply appears in the 1934 edition, under the Ethnological subheading: "Large collection of New Guinea native weapons, aboriginal implements and a series of 120 skulls of South Sea Island Natives." (Index Generalis, Sorbonne.)

Undated. Cyclostyle Notice. Practical Geography II. Ethnology. Technology. A. Each student must study the examples in the Macleay Museum, from Australia, New Guinea, Solomon Islands, New Hebrides, Fiji, New Zealand and Samoa. B. With the permission of the Trustees, Mr. Shewan has kindly agreed to allow students to handle specimens. These must not be removed from the Museum, etc.

This series of abstracts suggests that Miklouho-Maclay's cranial collection completely lost its identity from the time of his death up to the present year, a period of sixty years, also that all the crania in the Macleay Museum were relegated to obscurity for about thirty years (1902–1932) and that possibly the majority of the crania in the collection were never individually recorded.

Among loose papers in the Macleay Museum are two University of Sydney Examination Books. One is labelled "Contents of Case C, Macleay Museum, 1913". In it, under the heading Drawer 39, is written 'Skulls taken from downstairs, Balance in M.22'. The other is labelled "Contents of Case M, Macleay Museum, 1913". In it, under the heading Drawer 22, is written 'Skulls, too large for Drawer 29. (Taken from downstairs.) The handwriting is Mr. Shewan's.

The deduction could be that the "Balance in M22", presumably an odd 77 skulls, represents the difference between the 206 of Masters (1892) or over 200 of Fletcher (1893), and the 120 of Salter (1934) or the 129 of Macintosh (1948); the six full skeletons (1893) are reduced to three (1948), and the two mummies are still present. In other words, almost one-third of the cranial collection disappeared between 1893 and 1934. Yet every single skull of the eleven described by Krause in 1897 is accounted for in the present collection.

On the other hand, Dr. Cox, in his Presidential Address (25/1/82), when listing exchanges, mentions skulls, birds, crustacea and three mammals in spirit, sent to Dr. Bidie, Madras, on 22nd February, 1881.

Could the assessment of Mr. Masters (19/1/1892) have overlooked the skulls sent to Madras in 1881? If his estimate was made from a notebook of specimens received, rather than from an actual stocktaking of the material, it might be that the 200 or so skulls mentioned in the Memorial Volume, should in fact have been recorded as 130 approximately.

Two photographs of the interior of the Macleay Museum were found, both dated 1918. In these the building has no second floor. Rearrangement of the collections occurred following the building of the second floor, and also when the ground floor was given over completely to geological material. Finally, following the June 1942 submarine alarm in Sydney, much of the collection was bundled into cases for evacuation, which

did not eventuate. During the 1939-45 war a considerable quantity of correspondence, loose paper documents, calendars, etc., relating to the early 1900's, or earlier, was given over to pulp salvage.

EXPEDITIONS POSSIBLY RELATED TO THE COLLECTION.

The original log of the *Chevert*, 1875, kept in the Macleay Museum, records the taking of fishing and hunting parties to and from the barque, but no reference is made to any anthropological matters. The *Chevert* Expedition had as its object the collection of "all branches of Natural History", in the north-east coast of Australia, New Guinea, and Torres Strait. Places visited included Brooke Is., Coconut Islands, Darnley Is. (2/52), Dungeness Is., Fitzroy Is., Flinders Is., Palm Is., Percy Is., Somerset (Cape York), Three Sisters (Sue, Bet, Poll), Turtle Reef, Warrior Is., York Islands and Yule Islands. . . .

Sir William kept an independent journal (Diary) for the cruise, the first entry being on the 29th May, 1875, and the last on the 28th August, 1875.

The following are the only references to human skeletal material. Sat. 19th June (p. 26). Somerset. Cape York. "Natives dying out . . . are lying unburied. . . ." He intends to get the doctor to conduct investigations into the cause.

Friday, 25th June (p. 32): "Mr. Brazier . . . brought back, *inter alia*, four aboriginal skulls." These must almost certainly be the Cape York crania Nos. 50, 51, 52, 53; 50 having the label Sie XIII, No. 1648, 51 having the label Sie XIII, No. 1650, and 53 the label Sie XIII, No. 1651.

Saturday, 3rd July (p. 38): "Katow River, Mokatta village . . . all around the houses . . . remains of animals, human skulls. . . ." It is probable that crania Nos. 78, 79 and 80, with the word "Papuan" pencilled on them, can be ascribed to this occasion. Sir William uses the word "Papuans" (p. 44) for these people, and the pencil writing of Papuan on the skulls is very like Sir William's handwriting. The newspaper dated 14th Oct., 1878, wrapped round three teeth and tucked inside one skull would seem to indicate a scrutiny of the skulls at leisure at a later date.

Monday, 2nd August (p. 49). At Treacherous Bay, Darnley Island. "I went ashore with Brazier and in the evening I purchased . . . a mummified human head."

Friday, 16th August (p. 50). "I have succeeded in getting several mummified heads and the mate has gone round in the boat to the village today to get me a complete mummy which has been promised him."

Wednesday, 21st August (p. 51). "Mr. Williams got the mummy on Friday and it is now securely packed away with sundry heads."

In a published preliminary review of the results of the *Chevert* Expedition, he said he had not neglected the Ethnological and Anthropological branches, but made no further comment on these subjects (Macleay, 1875, p. 36).

In his 1876 diary volume, under 4th July, Sir William writes: "two tables erected . . . the other with Darnley Island Mummy and a number of human skulls." This extract is quoted also by Fletcher, 1929, p. 259.

Crania Nos. 4 (Sie XIII, No. 1644), 5 (Sie XIII, No. 1645), 6 (Sie XIII, No. 1646), 11 (Sie XIII, No. 1647) are beyond any doubt identified; Nos. 2, 7, 8, 9 and 10 obviously represent the members of the series which were not selected for display purposes and were not given a serial number. The selection was apparently based on a desire to display a variety, i.e., 1 full mummy, 1 integumentary preservation—the male cranium No. 4, 2 clay restorations—the female crania Nos. 5 and 6, and 1 bare skull—cranium No. 11. The choice of No. 11 rather than No. 10 was probably influenced by the fact that No. 11 was complete with mandible.

Cranium No. 1 cannot be identified by deduction. It represents, in company with cranium No. 3, a departure from Darnley Island technique and may be a Miklouho-Maclay specimen.

Walter Wilson Froggatt "In 1886 collected for the Macleay Museum at Cairns, Russell River, Daintree and Mossman Rivers, North Queensland. In 1887-88 collected

for the Macleay Museum at North West Kimberley, West Australia, and Derby, Barrier Range, Leonard and Fitzroy Rivers". (Musgrave, 1932, p. 101).

The Froggatt Collections received much attention. Macleay exhibited snakes from Port Darwin, Fletcher plants from Derby, Ramsay marsupials from Derby. Macleay published notes on the collections from Derby in 1887, and Froggatt gave an anthropological account of the natives of West Kimberley. (Froggatt, 1887, pp. 556, 557, 550, 1017; 1888, p. 651).

Reticence is always more pronounced in the collection and/or donation of human remains, than in other fields; such reticence may partly account for the absence of precise information about the origin of many of the Macleay Crania.

It appears quite probable that the Derby and Port Darwin skulls were obtained by Froggatt.

REFERENCES IN LITERATURE TO CRANIA NOW LOCATED IN THE MACLEAY MUSEUM.

EXHIBITION OF CRANIA.

"Mr. Masters exhibited the skull of an aboriginal female remarkable on account of a large oval aperture about $1'' \times \frac{1}{2}''$ at the junction of the two parietal bones. The exhibit was the skull of the 'gin' of 'King Charley' of Bega. The woman had been accustomed for many years to wear a cap of wet clay upon her head." (Masters, 1877, p. 30.) This skull carries the label SIE XIII, No. 1649, and is numbered "62" in the present arrangement of the collection. Inscribed in ink across the frontal bone is Coolangubre, N.S.W. (Map of the County of Auckland Eastern Division N.S.W., 1929, 29/11/29, gives a parish of Coolangubra, 7 miles S.W. of Bega.)

This same skull was described by Krause, 1897 (vide infra) as having a parietal hole 24×16 mm., the margins showing exostoses, in a gutter 10×5 cm., which begins at the anterior end of the sagittal suture. Krause calls it a male skull; apparently he was not aware of its history.

This skull is dolichocephalic, has characteristic Australian aboriginal features and is probably female. The lesion looks traumatic rather than congenital, suggesting successful marginal healing, the posterior margin of the aperture being situated at the mid-point between bregma and lambda, on the sagittal suture line. The measurements of the lesion are as quoted by Krause, except that the width of the aperture is 18.5 mm. A slicing blow from a fighting boomerang or a furrow from a bullet might be consistent with the condition. The wet clay cap mentioned by Masters suggests a protective mechanism for her traumatic cranial decompression.*

Mr. Masters exhibited "A new species of *Serranus* and a new *Percis* from the Fiji Islands, and two heads of Malicolo Chiefs, showing the skull lengthened out as is done during infancy. The profiles had been reproduced with prepared clay". (Masters, 1879, p. 244.)

Sir William Macleay's 1879 diary volume under Wed., 26th March, refers to the meeting and comments on the exhibits in these terms: "... 2 skulls of Chiefs of Island of Mallicolo by Mr. Masters from my museum."

(Vide supra—the purchase from Mr. A. Boyd in March, 1879, of human osteological specimens from Mallicolo, Fiji, etc.)

"Mr. Harper exhibited also deformed Malekulan crania to illustrate photographs sent to him by Mr. R. Parkinson of New Britain, who had recently found among the inhabitants of South Cape, New Britain, exactly the same deformation as that practised by the people of South Malekula and the Maskelyne Islets." (Harper, 1901, p. 311.)

There are 26 deformed Mallicolo crania in the collection, consisting of 19 bare skulls and 7 with the face modelled in the "Rambaramp" (Deacon, 1934, p. 544) fashion. Of these, 2 built up skulls and 7 bare skulls have labels Sie XIII, Nos. 1661-1669. The two

* I am indebted to Professor W. K. Inglis for the following comment relative to the same skull: "On the whole, the appearances suggest that the abnormality is due to a pathological condition, inflammatory in nature, though it is possible that trauma predisposed to the inflammatory reaction." This opinion was obtained on 1st July, 1949, after the manuscript had been submitted.

heads labelled 1661, 1662, would be those exhibited by Masters, the 7 bare skulls 1663-1669 those exhibited by Harper.

HERR WILHELM KRAUSE.

Krause in 1897 says: "Während meines Aufenthalts in Australien in Sommer 1897 . . . Die Schädel . . . Nr. 34-36 und 38-45 befinden sich im Macleay Museum in Sydney."

Krause described about 200 Australian skulls distributed in various museums, and his conclusion was that the mean indices of Australian skulls from various regions differed very little (p. 519).

He was apparently directed to the cranial collections in the Macleay Museum, the Anatomy Department, University of Sydney, and the Australian Museum, Sydney, by J. T. Wilson, Professor of Anatomy in Sydney. In the reprint of Krause's paper in the Library of the Anatomy Department, University of Sydney, a marginal note in Professor Wilson's handwriting occurs against each description of a Macleay Museum skull.

The eleven skulls in the Macleay Museum described by Krause are:

<i>Krause's No.</i>	<i>Present Catalogue No.</i>	<i>Other Identification on Skull.</i>
34	60	Sie XIII, No. 1659, Richmond River.
35	46	Derby, N.W. Aust.
36	53	Sie XIII, No. 1651, Cape York.
38	54	Sie XIII, 1652, Cape York.
39	50	Sie XIII, 1648, Port Darwin.
40	62	Sie XIII, 1649, N.S.W.
41	51	Sie XIII, 1650, Cape York.
42	48	Derby, N.W. Aust.
43	56	Hinchinbrook Is., N.E. Australia.
44	52	Cape York.
45	58	[35] ♂ H. Austral., Balona R., 1880.

(Krause, 1879, pp. 519, 534, 535, 536.)

BARON N. N. DE MIKLOUHO-MACLAY.

The classification of Maclay's skulls presents a threefold problem. 1. The interpretation of the Russian script for the Villages and Islands and/or people written on the skulls. 2. The geographical placing of these names, which existed over 75 years ago, but which in the custom of native villages have since changed or disappeared. 3. The correlation of the named and geographically placed skulls with Maclay's published observations and deductions.

The Maclay Coast is defined by Miklouho-Maclay as extending for 150 miles between Cape Croisilles and Cape King William, and 30-50 miles inland to the mountains of Mana-Boro-Boro or Finisterre Mountains (Maclay, 1885, p. 713).

The village of Aralu is on the coast between the Gabeneu and Koli Rivers, Gumbu village is slightly further inland, and Sangdinbimana is near the River Koli, not less than 1,200 feet above sea-level (Maclay, 1885, pp. 964, 967).

On his last visit to the Maclay Coast in March, 1883, Miklouho-Maclay distributed seeds from Macassar and Amboina to villages of Bongu, Bogati and Bili-Bili. (Maclay, 1886, p. 354.) His last visit was of one day duration; these can therefore only be coastal.

The geographical situation of some villages is indicated in the following:

Maclay explained to the people of Bongu that he wanted guides to take him to Kuliku; ". . . ging ik Bongoe en deed den inwoners verstaan, dat ik eenige mannen noodig had om mij naar Koelikoemâna te geleiden". Footnotes: "Bongoe: Een dorp aan de kust (p. 117). Koelikoe: Een dorp in de bergen—Mâna beteenkent berg" (p. 118). "o.a. had ik medegewerkt tot de herstelling van een Papoea van Gorindoe, wiens schedel zwaar beschadigd was door den val van een boom" (p. 119). "Van daar, dat ik aan dien eilandengroep den naam gegeven heb van 'Archipel der tevreden menschen'" (p. 121). "de eilanden Bili-Bili en Kar-Kar (Vitias eiland en Dampier eiland)" (p. 123). "Zoo noem ik de kust, gelegen om de Astrolabe golf en de baai,

waarin de 'Archipel der tevreden menschen' ligt . . ." (p. 125). "Gabinau—Inlandsche naam van de kleine baai bij mijn woning" (p. 126).

After a general comment about the Astrolabe Gulf, the neighbouring islands, the 6–8000 feet mountain ridge, and the many scattered villages (p. 277), Miklouho-Maclay speaks of "Die Einwohner von *Sambul*- und *Seguana-Mana* (Bergdorfer) binden an einzelnen Locken verschiedene kleine Gegenstände . . ." (p. 236).

As very few "Papuashadel" are to be found in European museums, he tried very hard, but could only get 10: "mir nur 10 Stuck zu erhalten" (p. 238). The custom is exhumation after a year, the mandible is cleaned and stored and is not willingly surrendered; the rest of the skull is thrown anywhere in the village or bush, and can be taken. With great difficulty he got two full skulls only: "Mit vieler Muhe habe ich mir zwei vollstandige Schadel verschaffen können" (p. 239). He once got five skulls in less than 10 minutes, brought from different corners of huts of the village, by boys, for tobacco and calico: "Ich habe ein Mal in einem Dorfe (*Gumbu*) in weniger als 10 Minuten 5 Schadel erhalten . . ." (p. 239, footnote). (Maclay, 1873, pp. 225–250.)

Miklouho-Maclay expressed his intention of working out the Papuan skull thoroughly at a later date; in the meantime he presented a general picture:

Maclay-Kuste: Dolichocephalic, Breadth Index 77, Height 72, lateral view suggests considerable height, posterior view shows roof-shaped vault; forehead is laterally compressed, malars very prominent, supraorbitals often strongly developed, occiput wide but flat; maxillae strongly prognathic with protruding upper teeth; mandible narrow with angles projecting laterally, and lower teeth receding; chin also receding; contrast between prominent malars and narrow, low, sloping forehead is marked; nose is wide and flat. This is the dominant type, but variants exist (pp. 239, 240). (Maclay, 1873, pp. 225–250.)

Among general observations he says circumcision does not occur in the mountain villages of Englam, Tengum, Maragum, or in Tiara Island, though it is general and skilful on the Maclay coast: "In den Bergdorfern Englam-Mana, Tengum-Mana, Maragum-Mana (Mana heisst Berg), auch der Insel Tiara (eine der Insel des Archipels der zufriedenen Menschen) fand ich diesen Gebrauch nicht" (p. 244).

Papuans generally die between 50 and 60, because of accumulated ill health; "die altesten schatzte ich zwischen 50–60 Jahre" (p. 249).

His conclusion is that Papuans are members of one race which falls into not clearly distinguishable types: "Ein Schluss aber drangt sich schon jetzt, nachdem ich die Papuas Neu-Guinea's (der Maclay-Kuste und von Doreh), Neu-Ireland's, die Negritos von *Luzon* (die zweifelsohne echte Papuas sind), die Bewohner der Neu-Hebriden und der Salomon-Insel gesehen habe, entschieden auf, namlich der, dass *der Papua-Stamm in mehrere von einander distincte Varietaten zerfallt, die aber nicht schroff von einander geschieden sind*" (p. 250). (Maclay, 1873, pp. 225–250.)

In describing three skulls obtained in the last days of December, 1872, Miklouho-Maclay says two are from the mountain village of Englam-Mana and one from the coastal village of *Gumbu*, on the Maclay-Kuste (Maclay, 1874, p. 346).

Other references to locations given by Miklouho-Maclay are: "Insel Bili-Bili im Archipel., Zufriedener Leute; Bili-Bili Jam-Bomba Griger Tiara; Englam-Mana und Tiengum-Mana; Bergdorfer Tiengum-Mana, Englam-Mana, Maragum-Mana; Bili-Bili, Kar-Kar (Dampirs Insel), Wag-Wag (Insel Rish). (Maclay, 1875, pp. 77, 78, 83, 87, 88.)

On the Maclay Coast again, the following are indicated: "des Dorfes Bogati; Bongu; Billi-Billi, Jambomba und den Inseln des Archipel's der Zufriedenen Menschen; Insel Tiara; In Englam-Mana (einen Bergdorf); des Dorfes Tiengum-Mana; 'Bogge' (Mann von Englam-Mana), 'Buggay' kam nach Bongu . . . um bei (mein gutter Freund); 'Saoul' von Bongu; In Gorendu; In Billi-Billi; 'Tui' (Bongu); des Kindes von Gagu und dem Bau; Mareolan und Lalaulan waren Eigennamen Gorima ist der Name eines Kastendorfes." (Maclay, 1876, pp. 300, 312, 315, 316, 318, 319, 320, 325.)

Galton's "reviews" in *Nature* are abbreviated semi-literal translations of some of Miklouho-Maclay's publications in *Natuurkundig Tijdschrift*, and are not as helpful as

the originals; for example, 1876, p. 108, briefly refers to "the inhabitants of Bili-Bili and the Archipelago of Contentment" (Galton, 1876, 1880).

Maclay's intended regions of investigation, after leaving the Maclay Coast, were Cebu, Luzon, Sunda Island, and another part of the coast of New Guinea: "Ik maak den tocht mede en ben van plan onder anderen Cebu aan te doen en de Negrito's op Lugon te bezoeken; dan ga ik naar de Soenda-eilanden en van daar naar Nieuw Guinea, maar aan een ander gedeelte van de kust" (Petermann, 1873, p. 113).

In notes to Petermann, abstracted from a letter to Baer, Miklouho-Maclay says he arrived in Manila on the 21st March, 1873, went next day by perahu to the coast village of Limai, the following day to the mountains of Limai, and stayed two and a half days. The people were negritos, and a typical skull was exhumed for him. "Der Negrito-Schadel, der für mich in den Bergen beim Dorfe Pilar (auf Luzon) ausgegraben würde, hatte ebenfalls eine Breite von 89·5" (Maclay, 1874, p. 22).

In a footnote to a letter read by Virchow in 1878, Miklouho-Maclay, referring back to the same 1873 visit to Cebu, Manila and the Limai mountain, says that after measuring 21 living Negritos he subsequently, through the kindness of an official in Balanga, obtained a true negrito skull of which the C.I. of 89·5 was in harmony with the 21 he measured. "Ich erhielt bald darauf durch die Freundlichkeit eines Beamten in Balanga einen sicher achten Negrito-Schadel, dessen Breitenindex (89·5) mit dem durch die Kopfmessung gefundenen Extreme (87·5-90·0) gut stimmte" (Maclay, 1878, p. 101).

Maclay supports his opinions by referring to measurements he made on 148 individuals and 23 skulls of the Maclay Coast: "so dass, gestützt auf meine, an 148 Individuen (beiderlei Geschlechts) gemachten Kopfmessungen und auf die Untersuchung von 23 zweifellos achten Schadeln, ich ein ziemlich sicheres Urtheil über die Schadel der Papuas der Maclay-Küste werde fallen können" (Maclay, 1878, p. 101).

Maclay regarded the Ninigo people as similar to Micronesians, who were very different from the Melanesians of Agomes and Kanies (Maclay, 1878, p. 100). The two Ninigo skulls (Nos. 21, 22 in the present arrangement) are almost perfect in condition, are of massive appearance, and look very different from any other skull in the collection.

Carl Baer wanted a perfect brachycephalic skull from Papua and from the Philippines. Maclay soon concluded that dolichocephaly was by no means as common in Melanesians as was supposed. He estimated the Cephalic Index of New Guinea natives as varying from 62-84·3; the 62 was a Namatote Islander of the Kowiy Coast. He also observed that short heads were more frequent in the women. In New Guinea, Maclay's interest in skulls was directed towards the frequency of brachycephaly (Maclay, 1876, p. 167); while in Australia he was more interested in extremes of dolichocephaly (Maclay, 1884a, pp. 395-396; 1884b, 401-403).

The difficulty of geographically locating native named villages was recognized by Miklouho-Maclay himself: "Es ist sehr wahrscheinlich, dass dei Namen oftters verloren gehen, und statt derselben, neue eingeführt werden, denen es wiederum ähnlich gehen kann." Apart from that, very few place names existed on the Kowiy-Küste; he heard some natives calling part of Triton's bay "Uru-Lenguru" (Maclay, 1876, p. 160).

Phonetic spelling of native names presents difficulty in geographical diagnosis. Maclay made his notes in Russian, then translated them into German. He also wrote in English, French and Dutch. His spelling varied (Greenop, 1944, p. 265). Note Bili-Bili and Billi-Billi; Belonne, Balonne, Balonna, Balona River. Amboeang might indicate Zamboeanga Harbour in Mindanao or a mixed Russian-Dutch phonetic for Amboina. In either case, why does it occur on a skull also marked Timor? (Skull No. 44.) Similarly, Skull No. 45 is marked Solor, Kidang, Lomblen; Solor and Lomblen are separate islands near Timor. The bibliography indicates some of the variations in the spelling of his own name in his different publications. Some of his comments written on the cranial bones are initialled M-M, others MM, others B-M, and B-Mkl.

A single sheet of blue foolscap in the Mitchell Library purports to represent a list of fifty place names in New Guinea as employed in Maclay. Of names already placed from Maclay's own publications abstracted above, the list omits Englam, Sangdinbi, and Gorendu, but confirms Bili-Bili, Bongu and Sambul.

In the villages of the Mariveles Mountains of Luzon he found Negritos who had customs and facial features similar to Papuans. While admitting that, in general, the Papuans of the Maclay Coast are dolichocephalic with some variation to brachycephaly, and the Negritos of Luzon are brachycephalic with some variation to dolichocephaly, he considered that their origin was probably the same (Maclay, 1874, p. 23). The primitive mountain dwellers on the borders of Pahang, Trengganu and Kelantan had the heavy brows, thick lips, receding foreheads, kinky hair and skin of Melanésians; nomadic, unmixed, few in number, retiring before the Malay, they were to Maclay the faint echo of a Melanésian past. Dark people of the Malay Peninsula, Negritos, Andamanese, Melanésians, were linked by his observations, whereas previously the link had been merely presumed. Maclay was looking for similarities. Hence the Luchon (Sbu) skulls might have come from Luzon or Cebu in the Philippines, from south-west New Guinea, or even from the Admiralties, or the Maclay Coast.

The map accompanying Maclay's address to the Imperial Russian Geographical Society about his March 1879-January 1881 expeditions (Iswestija, 1882—Mitchell Library) gives no additional solution to the problem.

Luzon in Maclay's time would receive in Spanish a pronunciation of "Luthon". The Russian language does not provide for "th", and a Russian phonetic representation might be "Luchon", the "ch" being a soft modification of the pronunciation "ch" as in the Scottish "loch". In Dutch, Luzon is expressed as Luçon in Maclay's publication; and in German he writes it as Luzon. A large Russian commercial atlas in the Geography Department, University of Sydney, shows Luzon as Luson; the Russian characters are identical, save that Maclay's Russian X is shown in the map as a Russian C, that is, an English S. The same problem of the Timor Amboeang and Solor-Kidang-Lomblen skulls occurs again with the Luchon (Sbu) skull (No. 40). The English pronunciation of the S is "see". Why are two separate islands, Luzon and Cebu, written on the same skull?

The next question is whether the negrito skull exhumed for Maclay in the Limai Mountains and the negrito skull obtained by the kindness of the official in Balanga are to be regarded as two references to the same skull or whether they are two separate skulls. After several discussions with several linguists, and after reconsideration of Maclay's story in his own words, and of the appearances of the skulls, the two skulls marked Luchon and Luchon (Sbu) (Nos. 39 and 40) have been accepted as the two mentioned in his Luzon excursion.

There is one fact against this conclusion: Maclay gives the Breadth Index as 89.5 for one or both Negrito skulls. The Breadth Indices of Skulls 39 and 40 are, by present-day methods, 74.7 and 74.0. On the other hand, Maclay says he had a makeshift instrument; he does not define his bony points for measurement, and the indices of 87.5-90.0 which he quotes for 21 living Negritos, are higher than the highest in the world as quoted by Martin (Martin, 1928, pp. 775-778).

The Russian script in pencil on Skull No. 41, like that on Skulls 39 and 40, is partially rubbed. Having received preliminary assistance from others (acknowledged), the writer accepts responsibility for the translation as Sulu (Island or Sea). In having no base, and in demonstrating large post-mortem temporal gaps, the skull is very similar to skull No. 40. The bony gaps are similar to those in the classical descriptions of many writers, of ritual cannibalistic and other procedures, particularly in the Philippines regions.

Miklouho-Maclay lists places visited by him between March, 1879, and January, 1881, as Lifu in New Caledonia, Tanna, Vate, Tongoa, Mai, Epi, Ambrim, Malo, Vanua Levu, in the New Hebrides; Lub, Ninigo, Trobriant, Solomons, islands of south-east end of New Guinea, and the islands of Torres Strait; the terminal period was spent in Brisbane and on the Balonne River. Also, "In order to eliminate any doubts as

to the correctness of the cranial measurements on living individuals, I have not neglected to collect a considerable number of undoubtedly authentic skulls from New Caledonia, New Guinea, the Admiraltys, Ninigo, and Solomon Islands" (Maclay, 1881, pp. 171-5).

The Murray Islands consist of three islands, Mer, Uga and Erub; Erub is now known as Darnley Island. They lie at the eastern end of Torres Strait. Mabiuiag is a populous island half-way between Cape York and New Guinea, and its Anglicized spelling is Mabiak. Referring to his observations in 1880 in Mabiak Island, Torres Strait, and in the south-east coast of New Guinea, Miklouho-Maclay says: "I possess a skull from one of these villages of the south coast of New Guinea, on which the above described saddle-shaped ridge is well marked . . ." (Maclay, 1881, pp. 627-630). Miklouho-Maclay states that he visited the hill villages on Basilaki Island (Moresby Island) in 1880 (Maclay, 1886, p. 353).

Skulls Nos. 12, 13 and 14 marked Erub (translated from Russian script) and Nos. 15, 16, and 17 marked Mabiak, are obviously Maclay's, the names being in his own handwriting. Skull No. 18 is marked in Russian script, which translates possibly to Mabnyly, 1880. It therefore has to be from Torres Strait or the south-east coast of the eastern tip of New Guinea. Maclay speaks of obtaining from this southern coast one skull with a saddle depression 4 mm. deep across the anterior margins of the parietal bones. Skull No. 18 is the only one in the collection which has such a transverse depression behind the coronal suture. The precise geographical position of the name has not been traced.

Maclay said he received brains and skulls, including a range of interesting brains of Melanesians, from Sydney Hospital in 1881, Sydney being one of the centres of trade with the Pacific Islands (Greenop, 1944, p. 188, quoting from Maclay to the Russian Geographical Society). It is worth observing that between 1868 and 1876 over 11,000 New Hebrideans were brought to Australia and approximately 4,000 only of these were returned. In 1886 there were 10,000 recruits in Queensland (Harrison, 1937, pp. 197-8). These included deformed Malekulans, for trade was always concentrated in the southern part of the group rather than the north. However, Maclay probably had no relation to the Mallicolo skull collection, because in his fight against the trade he says: "New Ireland, New Britain, and the Solomon Islands are now the chief places of kidnapping" (4/3/1884, to Admiral Wilson; quoted by Greenop, p. 223).

Gulnarber Station, near St. George, on the Balonne River, Queensland, was visited by Miklouho-Maclay in 1880, to examine "hereditary atrichia universalis" in Australian aborigines (Maclay, 1881, p. 175). Subsequently, "Baron Maclay exhibited photographs and dissections of the brains of a Malay, Chinaman, and Australian Aboriginal; . . . photographs of the hairless family, Balonne River" (Maclay, 1881, p. 196).

Greenop went to the Macleay Museum in search of any surviving Maclay specimens. The Curator, Mr. Salter, showed him two heads; the Sheriff of the Supreme Court, Brisbane, furnished extracts of official records identifying these as Jimmy Ah Sue, convicted on 20th April, 1880, at Rockhampton and hanged at Brisbane on 31st May, 1880; and possibly Maximus Gomez, alias Pedro, convicted at Cooktown on 30th April and hanged on 21st June. Greenop says: "I was able to examine and photograph these—the only two specimens in existence now, I believe, upon which Miklouho-Maclay actually worked in pursuit of his studies" (Greenop, 1944, pp. 174, 175; photograph of Jimmy Ah Sue, p. 160).

Of all the evidence collected, the last quotation from Greenop is the one most indicative of the almost total eclipse of Maclay's craniological material for a period of sixty years.

A Russian film, "Without Prejudice", as reviewed in *The Sydney Morning Herald* (12/10/48), allegedly states: "Sidney's Anglo-German conspirators callously destroy Maclay's all-important anthropological specimens."

At the present moment 40 skulls arranged on the shelves of the Macleay Museum can be conclusively identified as Maclay's and linked with his published observations.

Of the total 206 crania (19/1/1892) there are now 129. These 206 included 50 from Lady Miklouho-Maclay, presented in October, 1889, of which there are now 40, or perhaps 41, that can be identified. Yet of the 11 Australian skulls examined by Krause in 1897, six having a Sie XIII No. . . . label, four having a place name, and one being a Miklouho-Maclay skull, all have survived.

GEOGRAPHICAL CATALOGUE.

A new series of numbers has been instituted and the skulls arranged on a geographical basis. The notes include any previous numbers, or distinguishing marks on the skull; also brief comments of ethnological, historical or anatomical interest. The date and circumstances under which the skull was obtained are added wherever possible.

TORRES STRAIT.

1. Skull and mandible. No documentation.

The exterior of the facial skeleton is built up into a clay mask and painted brown and white. The clay has been pushed into the nasal cavity as far back as the posterior nares; also into the orbital cavities, and from the lateral aspect into the temporal and infratemporal fossae. The modelling of the face presents a thin straight nose, straight lips of medium thickness and slightly protruded. The clay appears to have been fired after application. The teeth have been retained by the clay and can be seen from the base of the skull. The skull is intact, the basilar suture ununited. Possibly female, aged 18. Location possibly Torres Strait Islands; the technique is a little different from that of Darnley or Mabiak. Possibly a Miklouho-Maclay specimen.

2. Skull and mandible. No documentation.

The tissues of the face and scalp have been mummified, possibly by smoke curing. Deficiencies have been replaced by rolls of fibre thrust into the infratemporal fossae. A very thin layer of clay closely follows the outline of the facial bones. The nose is narrow and straight. A disc of pearl shell, with a central daub of clay for pupil, occludes each orbit. The integuments over the vault are not covered with clay. The entire skull is coloured red. Fibre cords hold the mandible to the skull by passing round the symphysis and through each nasal aperture, and by binding the condylar neck to the zygomatic arches. Other fibre cords pass coronally round the skull in front of the mastoid processes, are gathered into a suspensory loop above the skull, and end in a further decorative set of strings suspending eight nuts and four carved sticks. The teeth are large and show considerable attrition. Muscle markings are pronounced in the bare occipital region. Almost certainly male, probably over 40. The technique is identical with that in specimens 4 and 9. Darnley Island technique. Chevert Expedition, 1875.

3. Facial skeleton and mandible. Paper label one cm. square with the number 37 pasted on the frontal bone.

A most unusual preparation in which the parietals, the temporals, and the squamous occipital bones have been removed by disarticulation at the sutures. The remainder of the skull is intact, including sphenoid, basi-occiput, and condylar occiput. The outer and inner tables are well displayed at the coronal margin, and the diploe has been in process of resorption. Clay modelling has overbuilt the face, eyeballs, floor of the mouth and tongue, the lower jaw being wide open. The teeth show considerable wear by attrition. A fringe beard of fibre is attached round the mandibular border up to the zygoma. The clay face is painted black, white and red, the eyeballs being black, the nostrils red and directed forwards. The appearance is that of a venerable old man. Almost certainly male, possibly 50. The technique is that of New Ireland. The label 37 places it as one of Miklouho-Maclay's 1880 collection.

4. Skull and mandible. Paper label SIE XIII, No. 1644, pasted on right parietal.

The tissues of the face and scalp have been mummified, the tissues of the base removed. A thin layer of clay has been modelled over the tissues of the face, nose

and orbits. Pearl shell discs, with a central daub of clay occlude the orbits. The face is coloured red, the vault black. Fibre cords passing through the nares and round the symphysis are slack, following shrinkage of the tissues. The teeth are perfect save that three lower incisors have fallen out post mortem; horizontal wear on the upper incisors almost suggests artificial filing rather than attrition. The exposed base of the skull shows fire blackening. Almost certainly male, possibly 35. Technique is Darnley, identical with that in specimens 2 and 9. Chevert Expedition, 1875.

5. Skull and mandible. Paper label SIE XIII, No. 1645, pasted on frontal; Darnley Island, Macleay Museum, printed in Indian ink on frontal region.

The integuments remain on the mid-face only; the upper face is over-modelled with a thick layer of clay, which probably covered the skull more extensively, but has since broken away. The moulding of the nose is thin and straight; nostrils and septum are so arranged as to present a side-to-side pathway for a nose stick. Pearl shell discs with a central clay daub occlude the orbits. The clay is a dull red colour. Fibre cords attaching the mandible pass from the symphysis through the nares, and from the condyles to the zygomatic arches. The remaining teeth show little attrition. One molar shows advanced caries. Epipteric bones are present. Muscle markings are not prominent. The line of the suture between squamous temporal and parietal is unusual. Probably female, possibly over 35. The technique is identical with specimens 6, 7 and 8, but differs from that in specimens 2, 4 and 9. Chevert Expedition, 1875.

6. Skull and mandible. Paper label Sie XIII, No. 1646, pasted on frontal; Darnley Island, Macleay Museum, printed in ink on frontal.

The face has been modelled with a thick layer of clay, which follows the contours of the facial bones. Rolled leaves are inserted in the infratemporal fossae and nasal cavities and clay superimposed. Pearl shell discs with a central clay daub occlude the orbits. The face is red, the vault black. The nose is thin and straight, with a septal aperture for a nose stick. Fibre cords attach the mandible by passing from symphysis through nares and from condyles to zygomatic arches. The teeth show attrition, but no caries. Probably female, probably adult. Chevert Expedition, 1875.

7. Skull and mandible. No documentation.

The face is modelled with a thick layer of red clay. The bones of the vault are blackened. Pearl shell discs with a central clay daub occlude the orbits. Fibre cords attach the mandible by passing over the symphysis and nares only. The nose is modelled as in specimens 2, 4, 5, and 6. The majority of the teeth have fallen out post mortem. Probably female, possibly over 55. The technique is identical with specimens 5, 6, and 8. Chevert Expedition, 1875.

8. Skull and mandible. Letter M or W incised on right parietal.

The technique is very similar to specimens 5, 6, and 7, but the clay modelling is more extensive, the entire mandible being included in the clay which extends on to the basi-sphenoid. The fibre cords passing from the symphysis through the nares are incorporated in the clay. Fibre and rolled leaves are used as packing for the nasal cavities. Pearl shell discs with a central daub of clay occlude the orbits, the nose has a septal perforation, the face is red and the vault and eyebrows blackened. Probably female, adult. Chevert Expedition, 1875.

9. Skull and mandible. No documentation.

The integuments are mummified, the shrivelled ears well defined, and a very thin clay reinforcement is present in the upper facial region. The pearl shell discs and septal perforation are similar to the other specimens, the face is red and the tissues over the vault are blackened. There are no fibre supports to the mandible. A fragment of decorative cloth, portion of a head band, still adheres to the left frontal region. The teeth show no caries and the third molars are unerupted. Probably male, possibly 14. Chevert Expedition, 1875.

10. Skull. Darnley Is. 1. printed in ink on frontal bone. In pencil on right parietal appears 725 grms., 1578 cc. . . .

The teeth show no caries, very little attrition and the incisors are shovel-shaped. Probably male, adult. Chevert Expedition, 1875.

11. Skull and mandible. Paper label Sie XIII, No. 1647, pasted on frontal; Darnley Island, Macleay Museum, printed in ink on frontal.

Fibre cords attach the mandible to the skull in precisely the same type of knotting as occurs in the integumentary and clay heads described above. Some teeth have fallen out post mortem; the second left lower premolar was lost pre-mortem. Epipteric bones are present. Chevert Expedition, 1875.

12. Skull and mandible. Erub Is. ♀ in ink on left parietal. Russian script. A one cm. square area on the frontal indicates the site of a former label.

Corded fibres attach the mandible to the skull in precisely the same manner as described in the built-up heads, passing from symphysis through the nares, and from the condyles to the zygomatic arches. A small, delicate, well-preserved skull. Undoubtedly one of Miklouho-Maclay's collection, probably 1880.

13. Skull and mandible. Erub Isl. in ink on left parietal. Russian script. Also possibly a translation of Sangdo. ♂ on the left temporal. Corded fibres attach the mandible as in No. 12.

A skull very similar in appearance to specimen 12. Undoubtedly one of Miklouho-Maclay's collection, probably 1880.

14. Skull. Erub Isl. in ink on left parietal. Russian script. A one cm. square area on the frontal indicates the site of a former label.

A skull very similar in appearance to specimens 12 and 13. A double loop of cord fibre braided in similar fashion to the fibre cords already described is loosely wound round the skull. Undoubtedly one of Miklouho-Maclay's collection, probably 1880.

15. Skull and mandible. Mabiak in ink on left temporal. Russian script.

Undoubtedly one of Miklouho-Maclay's collection of 1880.

16. Skull and mandible. Mabiak in ink on left temporal and in blue pencil on left parietal. Russian script. Paper label one cm. square with the number 38 pasted on the frontal bone.

Undoubtedly one of Miklouho-Maclay's collection of 1880.

17. Skull and mandible. Mabiak Isl. M. 1880 in ink on left parietal. Russian script. The entire skull and mandible are coloured light red. One of Miklouho-Maclay's.

18. Skull and mandible. Mabnyly ♀ M. 1880 in ink on left parietal. Russian script. A one cm. square area on the frontal indicates site of former label.

This skull carries flecks of red colouring matter. There is a slight depression of the parietals, one cm. behind and parallel to the coronal suture. It is possibly the skull obtained from a village on the south-east coast of New Guinea and referred to by Miklouho-Maclay (1881, pp. 627-630).

Summary.

These eighteen Torres Strait crania offer an excellent study of range of genetic expression within the series; also an opportunity for measurement, detailed description, and contrast with other Torres Strait series already in the literature. The details of tissue preservation, remodelling and decoration offer a study of random behaviour superimposed on a basic pattern.

Geography.—Erub Island is the former name for Darnley Island and is one of the Murray Group at the eastern end of the Strait. Mabiak Island is further west, half-way

between Cape York and New Guinea. Mabnyly may be a village on the northern shores of the Straits.

Specimens.—Erub (Darnley) is represented by crania Nos. 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14; Mabiak by crania Nos. 15, 16, and 17. Cranium No. 1 can only be hazarded as from somewhere in the Torres Strait area. No. 3 is certainly from New Ireland.

Anatomy.—The eighteen Torres Strait crania in the Macleay series offer a range from males with heavy supraorbital and occipital ridges to almost delicate female crania. The males with narrow temporals, low sloping frontals, wide zygomatics, low orbits and prominent brows, marked alveolar prognathism, and teeth worn by attrition have distinct Australoid traits. It is doubtful whether the noses are as narrow and straight as the clay modelling would suggest. The average cranial capacity of the males looks rather higher than Australian averages. Thomas speaks of the "low Australoid natives of the Torres Straits Islands" . . . "prognathism and extreme length of palate" . . . in one skull "all the marks of degradism . . . in an exaggerated degree . . . the lowest and most simian human cranium likely to occur at the present day" (pp. 335-6). The measurements and descriptions he gives are typical of the extreme type of Australian, C.I. 61.9, etc.

Material.—A modelled or mummified head ensures a much greater likelihood of obtaining a perfect skull. The teeth are less apt to be lost, bones less likely to be broken, the mandible is practically never missing. Thomas, describing his series of 49 Torres Strait crania, complains that nearly all have lost the greater part of their teeth. The Rev. S. MacFarlane, who obtained these 49, observed that they were "painted a deep vermilion which came off as a fine red powder; . . . the skulls are rubbed with earth from Laibi and New Guinea fresh-water swamps; it is a light colour until burnt, when it becomes a deep red". His 49 were Banks, Mulgrave and Dauan skulls, taken by skull-hunting Jervis Islanders, and ornamented with artificial wooden noses (Thomas, 1885, p. 328). Barnard Davis had no Torres Strait crania in his collection and could only refer to Pls. 33 and 34 in Dumoutier's Atlas, showing Tond Island skulls (Davis, 1867, p. 305).

Social Anthropology.—Haddon (1932, pp. 58-59), however, says that in Erub and Murray Islands the wizened corpse . . . was lashed to a bamboo framework, . . . was painted red, and pieces of mother-of-pearl from a nautilus shell were inserted in the orbits, a round spot of black beeswax serving for a pupil. After it fell to pieces an artist who was "skilled in making portrait faces in beeswax on skulls" made a wax model on the deceased's face. Haddon says the length of the nose was accurate, as immediately after death the length of the nose was measured with a piece of wood which was kept to secure the right proportion of the imitation nose. The modelled skulls of relatives were kept partly for sentimental reasons, but mainly for divinatory purposes.

He says (1932, p. 83) that on the sacred islet of Pulu near Mabuiag, skulls were painted red and provided with noses made of beeswax and eyes of mother-of-pearl, but this was probably done in only a few cases.

This would infer that Haddon considered that male and female skulls were treated alike; Haddon apparently did not see the actual procedure. In view of MacFarlane's information and of the findings on this Macleay Series, the following interpretation is put forward.

Crania 2, 4 and 9 show a technique which is essentially integumentary mummification with a minimum of clay restoration; they are light red in colour and are probably all males. Their preparation is identical with that of the Darnley Island mummy in the Macleay Museum, which is also male. Crania 5, 6, 7, and 8 display a technique which is essentially clay restoration with practically no attempt at tissue preservation. Their colour is dark red, and they are probably all female.

Some elements are common to both sets—the pearl shell occlusion of the orbits and the septal nose-stick perforation.

Within each group the basic procedure has minor variants of decoration; for example, in the male group, additional sticks, cords, nuts occur in one, a head band occurs in another.

Cranium No. 1 is probably female and basically belongs to the clay restoration technique; minor variation lies in the varied colour pattern of brown and white. Cranium No. 3 is probably male and essentially belongs to the mummification technique, but variants of the standard lie in a non-perforated septum, forwardly directed red nostrils, rounded black clay modelling of the eyeballs, absence of pearl shell, bizarre decoration, and the curious removal of the vault bones to leave a skeletal mask.

This series reveals a general principle for the Torres region; while perpetuation of the heads of both sexes is attempted, the attitude demands mummification of the actual tissues of male heads, but merely a clay modelling of the females.

The neat and careful binding of the mandible to the skull in the bare crania Nos. 11 and 12 and the red coloration of both mandible and skull in No. 17, indicate that the mandible is given equal ritual value with the skull. This is in marked contrast with the north-east coast of New Guinea, where the mandible is treasured and the skull thrown away; and with some parts of Indonesia, where the skull is preserved and the mandible thrown away.

The writer has not had the modelling material analysed and has used the word clay as a general term. Haddon specifically mentions beeswax, while MacFarlane speaks of earth from fresh-water swamps.

ADMIRALTY AND NINIGO GROUPS.

19. Skull and mandible. Andra Is. (Mt. Munrach) MM 1879 in ink on left parietal. Russian script. A one cm. square label with a partially obliterated number ending in 6 (? 46) pasted on the frontal.

Undoubtedly one of Miklouho-Maclay's specimens.

20. Skull and mandible. Andra Isl. (Mt. Munrach). MM 1879 in ink on left parietal. Russian script. A one cm. square label with a partially obliterated number ending in 5 (? 45) pasted on the frontal.

Undoubtedly a Miklouho-Maclay specimen.

21. Skull and mandible. Ninigo in pencil on the left temporal and on the left mandible. Also M.. English script. A one cm. square label with a partially obliterated number, either 6, 4 or 8.

22. Skull and mandible. Ninigo in pencil on a thin cardboard label, tied to a leaf wrapped round a broken fragment of the left zygomatic arch and inserted in the left orbit. English script. A one cm. square area on the frontal indicates the site of a former label.

Summary.

These four crania are undoubtedly of the Miklouho-Maclay collection of 1879, and represent the only survivors of an apparently large number of skulls which he left in the American vessel *Sadie F. Callar* and did not recover. Andra is an island off the north-east coast of the Admiralty Group; Ninigo is the name of a small group of islands, equidistant west of the Admiralty Group and north of New Guinea.

Maclay considered the Andra crania to be typically Melanesian; the Ninigo skulls he thought were very similar to Micronesian crania.

The two Ninigo skulls, Nos. 21 and 22, are large, handsome, rugged; apart from the small fragment broken from the left zygomatic arch of No. 22, they are in perfect condition and are possibly the most striking skulls in the collection. They are probably reasonably rare as well.

NORTH-EAST COAST OF NEW GUINEA.

23. Skull. Man ♂ Englam 1876. B-M in ink on right parieto-temporal. A one cm. square area on the frontal indicates site of former label. Russian script.

24. Skull. ♂ Englam M. 1876. B- in ink on right parieto-temporal. Russian script. A one cm. square area on the frontal indicates site of a former label.
25. Skull. Englam 1876 B-M in ink on right parieto-temporal. Russian script. A one cm. square area indicates site of former label.
26. Skull. ♂ Englam. M. M-M 1876 in ink on right parietal. Russian script.
27. Skull. Sangdinbi. 1876. Russian script in ink on right parietal.
28. Skull. Sangdinbi. M. 1876. Russian script in ink on right parietal.
29. Skull. Sangdinbi. M. 1876. Russian script in ink on right parietal. A one cm. square area on the frontal indicates site of former label. Paper fragment with Dutch printing wrapped round bone inside skull.
30. Skull. Sangdinbi. M. 1876. Russian script in ink on right parietal.
31. Skull. ♀ Sangdinbi. M. 1876. A one cm. square area on the frontal indicates site of former label. Russian script in ink on right parietal.
32. Skull. Sangdinbi. M. 1876. Russian script in ink on right parietal. A one cm. square label with the number 15 pasted on the frontal.
33. Skull. Sambul. M. B-M. ♂ 1876. Russian script in ink on right parietal and temporal.
34. Skull. Andan. Bongu. ♀ Bongu. B-M. 1877. Russian script in ink on right parietal and temporal.
35. Skull. Ibor or Ebor. ♂ Bongu. B-M. 1877. Russian script in ink on right parietal and temporal. A one cm. square area on frontal indicates the site of a former label.
36. Skull. Keik. ♀ Bongu. B-M. 1877. Russian script in ink on right parietal and temporal. A one cm. square area on frontal indicates the site of a former label.
37. Skull. Panake. ♂ Gorendu. B. Mkl. 1877. Russian script in ink on right parietal.
38. Skull. Bili Bili Isl. B-M. 1877. Russian script in ink on right parietal. No base or facial skeleton. The loss has been by weathering.

Summary.

Geography.—The Maclay Coast extends 150 miles from Cape Croiselles to Cape King William and 50 miles inland to the 6,000-feet Finisterre Range. Bongu and Gorendu were villages one mile apart on the sea coast. Sangdinbi, Sambul and Englam were mountain villages near the Koli River, 30 miles inland, 1,200 feet above sea level. Bili-Bili or Vitias Island is near Madang.

Material.—In his first (1872) visit Maclay pointed out the difficulty of obtaining skulls, and particularly mandibles. He got 10 skulls without mandibles and two with mandibles from Gumbu and Englam. These he either left in Java or sent to Virchow or Carl Baer.

In his second (1876-7) visit Maclay obtained 23 skulls, and crania Nos. 23-38 are 16 of these 23.

Anatomy.—Maclay gave the following data: Breadth Index 77. Height Index 72. Nose wide and flat. Roof-like vault; narrowed frontals, wide malars, strong supra-orbitals, flat occiput, alveolar prognathism with protruding upper teeth; narrow mandible with laterally deviated angles.

Physical anthropologists and anatomists, particularly Germans, for example Poch (Bondy-Horowitz, 1930), have been over the New Guinea coast extensively, so the main value of these 16 skulls lies in their historical significance.

They are all without mandibles. Six are marked male, three female, and seven are not sex labelled by Maclay.

The fact that the five skulls (Nos. 23, 34, 35, 36, and 37) carrying an additional name in front of the village name are all sex labelled would appear to indicate that

Mau, Andan, Ibor, Keik and Panake are the personal names of natives known to Macleay and who had died between his 1872 and 1876-7 visits.

These 16 crania are all on the small side, lack a robust appearance, and have less sex differentiation than, for example, Australian crania. Similar observations can be made in over 100 New Guinea crania in the Anatomy Department, University of Sydney.

PHILIPPINES AND EAST INDONESIA.

39. Skull. Luzon derived from Luchon in Russian script in pencil on left temporo-parietal. A one cm. square area indicates site of former label.

The skull is smoke-blackened, remnants of caked soil adhere to its interior. Its features are compatible with negrito affinities, but it is mesocephalic. A 1.0 mm. thick encrustation of reddish clay coats the skull deep to the smoke blackening.

40. Skull. Luzon (Cebu) derived from Luchon (Sbu) in Russian script in ink on left temporal, and in pencil on right parietal. A one cm. square label with the number 16 is pasted on the frontal.

The nose is rebuilt with a hard reddish black clay. A 1.0 mm. thick incrustation of reddish clay coats the skull, which is fire blackened in the parietal and occipital regions. There is an elusive similarity between skull 39 and skull 40 in anatomical features, and between skull 40 and skull 41 in treatment.

41. Skull and mandible. Sulu in Russian script in pencil on right temporo-parietal. A one cm. square area indicates site of former label.

The base is missing, there is a large ragged gap in the right temporal, and a smaller circular gap in the left temporal. The mandible is attached by ratten cane bindings from neck to zygomatic arches.

42. Skull. Timor on right temporal in ink, in English script, in Miklouho-Macleay's handwriting. A one cm. square area on the frontal indicates site of a former label.

The base is missing, there is a ragged gap one inch in diameter at the bregma.

43. Skull. Details the same as No. 42.

44. Skull. Amboeang in pencil and Timor in ink, in Macleay's handwriting on right temporal. Other details the same as Nos. 42 and 43.

45. Skull and mandible. Solor. Kidang-Lomblen in pencil on the frontal, in ink on the right parietal. Homme in blue pencil on the right parietal. English script. Macleay's handwriting. A one cm. square site of former label on frontal.

The base is missing and a gap in the vault is situated one inch behind the bregma.

Summary.

Crania Nos. 39-45 are undoubtedly Miklouho-Macleay specimens, and probably belong to the 1873 period.

After long examination the conclusion has been reached that the gaps in these skulls are post-mortem effects. There is an extensive literature relating to native cranial operations, their healing, and subsequent cranial appearances. A comprehensive review of the subject can be found in Ford, 1937, pp. 471-477, and in Rogers, 1937-38, pp. 321-340.

The region between Java, Borneo, and the Philippines for over two centuries provides historically substantiated piracy, head hunting and cannibalism. Malay, Menankabau and Dyak were outstripped in ferocity by the Sulu marauders.

Trophy skulls were suspended in long houses, by a variety of methods, a knotted rope through the foramen magnum, through a hole knocked in the vault, or by a basket framework round the skull (Hose, 1926, pp. 138, 140, 145; Mundy, 1848, p. 196). Breaking a hole in the temporals bilaterally to suck the blood, and breaking away the base to secure the brain is substantiated in prehistoric and historic cranial studies.

Crania Nos. 42-45 are almost identical with each other in appearance, and suggest exposure to weathering and bleaching.

Geography.—Luzon is the largest of the northern islands of the Philippine Group. The Mariveles Mountains are in the south-west corner of Luzon. Miklouho-Maclay obtained a negrito skull in Pilar Village in the Limai Hills in Mariveles.

Cebu is a small island in the middle of the Philippine Group. Sulu Island and the Sulu Sea are to the south-west, between Timor and the Philippines. Lomblen is an island north-west of Timor. Solor is an island west of Timor.

AUSTRALIA.

46. Skull and mandible. Derby. N.W. Aust. in ink on left temporal.

Described by Krause under 36 in his series. The skull shows the classical Australian features, and is a representative of the extreme range of strongly developed bony prominences, namely, supraorbitals, nuchal lines, maxillary tuberosity, external occipital protuberance, cone-shaped mastoid, and flat occipital shelf with very pronounced muscular markings.

47. Skull. Derby. N.W. Australia in pencil on left temporal.

Very similar to cranium No. 46, but a less extreme grade of development of bony prominences.

48. Skull and mandible. Derby. N.W. Aust. in ink on left temporal.

Described by Krause under 42 in his series. The skull has been treated with red ochre and fired; some soil adheres to the interior. It is much smaller, lighter and thinner boned than Nos. 46 and 47. Upper incisors have been subject to ritual removal. The third molars are unerupted, the basi-sphenoid is not fused and the lower face is asymmetrical. The Australian features so pronounced in Nos. 46 and 47 are lacking. Facial and alveolar prognathism is marked. Krause calls it a male skull, but a good case could be supported for its classification as a female aged about sixteen years.

49. Skull. Derby, N.W. Aus. in ink on left temporal.

Very small; bone disarticulated at the sutures; third molars not erupted. Frontal suture obliterated. May be a child of nine.

50. Skull and mandible. Port Darwin. Macleay Museum in ink on frontal and right mandible. Paper label Sie XIII No. 1648 on right parietal. V in ink on left mandible.

Described by Krause under 39 in his series. It is a large skull, but lacks the hypertrophy of bony prominences; the bones are smooth and rounded; the extreme Australian characters are not obtrusive. A pterion point is present on the right, an epipteric bone on the left side.

51. Skull and mandible. Cape York Macleay Museum in ink on left temporal and mandible. Paper label Sie XIII No. 1650 on frontal. IX in ink on left mandible.

Collected by Brazier of Chevert Expedition; Somerset, Cape York, 1875. Described by Krause under 40 in his series. Epipteric and Wormian bones in the sutures and orbits. Bony prominences are rounded off. Occipital shelf is undulant.

52. Skull and mandible. Cape York in ink on frontal and right mandible.

Probably obtained by Brazier, Chevert Expedition, Somerset, Cape York, 1875.

53. Skull and mandible. Cape York in ink on frontal. Paper label Sie XIII No. 1651 on frontal, VIII on left temporal, X on left mandible.

Collected by Brazier, Chevert Expedition, Somerset, Cape York, 1875. Described by Krause under 36 in his series. A very similar cranium to No. 52.

54. Skull and mandible. Cape York Macleay Museum in ink on frontal. Paper label Sie XIII No. 1652 on frontal. X on left temporal.

Collected by Brazier, Chevert Expedition, Somerset, Cape York, 1875. Described by Krause under 38 in his series. Very similar cranium to Nos. 51, 52 and 53. These four skulls are dolichocephalic, large and have reasonable vault height. Like the Port Darwin skull, they are less rugged than the Derby skulls but show classical Australian

features. The mandibles were incorrectly linked with the skulls and have been re-arranged.

55. Skull and mandible. Herbert River in pencil on left temporal (unusual printed script). Herbert River, Queensland in pencil on frontal.

Probably collected by J. A. Boyd of Ingham, 1876-79. The zygomatics are broken away. The occipital shelf is flat and the occipital part of the vault is shortened in the vertical plane. Characteristic Australian features. Skull is weathered.

56. Skull and mandible. Hinchinbrook Island. N.E. Australia in ink on paper label tied to the skull.

Described by Krause under 43 in his series. A very dolichocephalic skull, the narrowness is uniform throughout the entire length of the skull. The bones are thin and light, and there is a lack of excessive bony prominences.

57. Skull. H. Austral. Balona R. 1880 in Miklouho-Maclay's handwriting in ink on left temporal. A one cm. square area indicates the site of a former label.

The calvarium is sawn through and present.

58. Skull. H. Austral. ♂ Balona R. 1880 in Miklouho-Maclay's handwriting in ink on left temporal. A one cm. square label with the number 35 is pasted on the glabella.

The calvarium is sawn through and missing. Described by Krause under 34 in his series; he refers to a colossal canine fossa 10 mm. deep. This skull looks almost a twin to No. 57. The short vertical face is noticeably in contrast with the wide bizygomatic extent.

59. Skull. Cumeroogunja. 1924 in ink on left maxilla.

Individual bones are disarticulated. The bones are thin and delicate. Cumeroogunja is possibly a station property, location unknown.

60. Skull and mandible. Richmond River Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1659 on frontal. XI on left temporal and mandible.

Probably collected by Mr. Goodman, 1879. Part of base is missing. The skull is stained with iron. Small multiple erosions may have been made by ground beetles or water weathering. A rugged dolichocephalic skull.

61. Skull. Australian p. 1 Kokeruga. M. Tork in ink in Russian script in Miklouho-Maclay's handwriting on right temporal.

Serpiginous iron stains on the skull indicate that it had been lying on its left side in a swamp margin. Multiple erosions are identical in appearance with those of Skull 60. Collected probably in 1880-81.

62. Skull and mandible. Coolangubrie N.S.W. in ink on frontal. Paper label Sie XIII. No. 1649 on left parietal.

Exhibited by Masters (1877) and stated to be a known female from Bega. Coolangubra is about seven miles south-west of Bega. It was described by Krause under 40 in his series and classified by him as a male. The classical Australian features are present and bony prominences are moderately rugged. Krause was probably unaware of the history of the skull. This is a good illustration of the difficulty of classifying sex with certainty. A gap occurs in the vault between bregma and lambda. (Vide supra previous discussion.)

63. Skull. Female, N.S.W.? in ink on occipital. S51 in ink on frontal.

The norma verticalis is five-sided, very wide at the parietal eminences, narrow at the frontal margins. The skull suggests Melanesian affinities rather than Australian.

64. Skull and mandible. Paper label with the number 1184 on the frontal. A card with the number 1184 tucked inside the skull states "portion of a skull found near Bondi by Mr. F. O'Brien".

The skull is complete, has an excellent set of teeth and shows evidence of weathering in sand. It is large, characteristically Australian and almost certainly male. Exceptionally developed alveolar prognathism.

65. Skull and mandible. Paper label with number 1185 on the frontal. A card with the number 1185 tucked inside the skull states "adult male aboriginal presented by Sir Charles Nicholson".

The condition of the skull is identical with No. 64. A smaller, less robust edition of No. 64. It is much more likely to be a female than a male. In fact Nos. 64 and 65 look like brother and sister.

66. Skull. Old Collection printed in ink on frontal.

An extreme grade of the rugged Australian characteristics, almost approaching Neanderthaloid type of brow ridge.

67. Skull. No documentation.

Almost certainly Australian. Classical Australian characteristics.

68. Skull. No documentation.

Norma verticalis five-sided, wide parietal bones, narrow frontal. Extreme alveolar prognathism. Its affinities appear to be those of Melanesia.

69. Skull and mandible. No documentation. A one cm. square area indicates site of former label, i.e. probably a Miklouho-Maclay specimen.

A well-preserved cranium with some of the integumentary tissues adhering to it and an excellent set of teeth with no attritional wear. Very dolichocephalic and with some features suggesting Australian affinities.

70. Skull. No documentation.

Its affinities appear to be very like those of Darnley Island skulls.

Summary.

Documentation which can be accepted is available for crania Nos. 46-65, with the exception of cranium No. 63, which looks like a Melanesian skull, although carrying the label "Female, N.S.W.?"; also cranium No. 59, in which the place name cannot be located. Of crania Nos. 65-70, which have no label of geographical identity, Nos. 66 and 67 can almost certainly be accepted as Australians, and No. 69 has some Australian morphological characters. Nos. 68 and 70 remain "Unknown skulls".

The geographical range or scatter of the 18 crania identified with certainty is very satisfactory, Victoria, South Australia and Tasmania being the only States not represented.

For comparison and contrast this small series represents a valuable addition when studied with the larger numbers of documented Australian crania in the Australian Museum and the Anatomy Department in Sydney; the last possesses no crania from some of the sites of the Macleay crania, for example, Derby, Darwin and Hinchinbrook.

The literature concerning the Australian aborigines contains much disagreement. The writings of Wood Jones would appear to indicate that the Australians form a homogeneous race which expresses itself over a range from large crania with exaggerated masculine characters to exceptionally small-headed female crania (Wood Jones, 1934, p. 323). Of the writers who considered the Australians non-homogeneous, it is sufficient to contrast the following two: Topinard said a smaller dolichocephalic negroid type belonged to the west, and a larger, less dolichocephalic, non-negroid type occupied the rest of the continent (Topinard, 1872, p. 211). Birdsell practically reverses this opinion, claiming a pigmy type in the east, and a Murrayian type and a Carpentarian type in the rest of the country, so giving the Australian a trihybrid origin (Birdsell, 1946, p. 103; Tindale and Birdsell, 1941, p. 9).

The 18 geographically located Australians in the Macleay Museum present examples of the extremely rugged large type, the thin-boned lightly ridged type, and intermediate grades; further, these variations are scattered, not locally concentrated. Crania No. 46 from Derby, No. 50 from Darwin, No. 52 from Cape York, No. 60 from Richmond River,

No. 64 from Bondi, and No. 66 "Old Collection" are comparable in size, dolichocephaly, and exaggeration of bony prominences. In addition, however, superimposed on the basic similarities, there do appear to be local concentrations of modified genotypes. Howells arrived at this conclusion, although he expressed it in different terms; "there are definite regional deviations in a remarkably homogeneous people" (Howells, 1937, p. 40). As an illustration, the inferior part of the squamous occipital in the large heavy skulls quoted above is, in the Derby crania, a flat shelf with exaggerated muscle markings; in the Darwin skull it is uniformly curved and smooth; in the Cape York crania it is undulant and smooth, and in the Bondi skull the flat shelf reappears.

Apart from this, many miscellaneous subjects for study are available in these crania, to mention a few examples: epipteric and Wormian bones, a pterion point in one (Skull 50), metopism, thickness and thinness of cranial bone (a subject on which the literature is not very adequate), range of cranial capacity—which appears in this series to be considerable, and so on.

VARIOUS REGIONS.

71. Skull. Marked out in phrenological areas. Probably European.

72. Skull. Sakkara. Egypt printed in ink on the basi-occiput. A one cm. square area on the glabella indicates the site of a former label.

Apparently a Miklouho-Maclay specimen. No clue to its history is available. Maclay conducted marine biological observations in the Red Sea region and passed the Egyptian region several times.

73. Skull and mandible. Hanged, amputated, preserved head. Paper label one cm. square with the number 49 pasted on the glabella region.

Jimmy Ah Sue, Chinese, hanged at Brisbane (31/5/1880). The brain was removed by Miklouho-Maclay. The calvarium is missing but scalp and hair are still present. (See Greenop, 1944, pp. 174, 175, photograph p. 160; also Maclay, 1881, p. 196.)

74. Skull and mandible. Hanged, amputated, preserved head. Paper label one cm. square with the number 50 pasted on glabella region.

Maximus Gomez, alias Pedro, hanged (21/6/1880). The brain was removed, dissected and exhibited by Miklouho-Maclay. Bones of the calvarium are missing, scalp and hair are still present. (Greenop, 1944, pp. 174, 175; Maclay, 1881, p. 196.)

75. Skull. New Zealand in ink on frontal.

76. Skull. New Zealand in ink on frontal.

77. Skull. New Zealand in ink on frontal.

There is no information available for crania Nos. 75, 76 and 77.

78. Skull. Papuan written in pencil on the left parietal. The script was written with the skull held in the inverted position. A piece of newspaper dated October 14th, 1878, Brisbane, is wrapped round three teeth and tucked inside the skull.

The bones are bleached by weathering, and the vault stained, suggesting that the skull was originally lying on its vault in swampy or marshy ground.

79. Skull. Papuan written in pencil on the right parietal. The script was written with the skull held in the inverted position.

The skull is similarly bleached and the vault similarly stained.

80. Skull. Papuan written in pencil on the right parietal in the inverted position.

The skull is similarly bleached.

Crania Nos. 78, 79 and 80 are marked by the same handwriting and it is like that of Sir William Macleay. These might be specimens from Mokatta Village, Katov River, described (3/7/1875) by Sir William as lying around the village among refuse and filth (Macleay Chevert Diary, 1875, p. 38).

81. Skull. No documentation.

Some tissues adhere to the base. Probably female, possibly young, very brachycephalic.

FIJI.

82. Skull. Fiji in ink on frontal.
83. Skull. Fiji in ink on frontal.
84. Skull. Fiji Macleay Museum in ink on frontal. Paper label Sie. XIII. No. 1655 on left temporal. Gap in left temporal.
85. Skull. Fiji in ink on frontal.
86. Skull. Fiji in ink on frontal.
87. Skull. Fiji Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1653 on left parietal.
88. Skull. Fiji Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1654 on left parietal.
89. Skull. Fiji in ink on frontal. Facial skeleton missing.
90. Skull and mandible. Fiji Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1656 on left temporal. VII on left temporal and left mandible, and Fiji.
91. Skull. Fiji in ink on frontal.
92. Skull. Fiji in ink on frontal.
93. Skull and mandible. Fiji in ink on frontal. Mandible fractured post mortem.
94. Skull. Fiji in ink on frontal.
95. Skull and mandible. No documentation.

Summary.

Crania Nos. 82-95 are remarkably similar in size and morphological appearance. Possibly the majority are female. As a general statement, they are dolichocephalic and hypsicephalic, with vertical facial outlines and little prognathism, fairly high frontals and practically no supraorbital prominences.

The Donations Ledger records two Fijian skulls from Archibald Boyd (15/2/1876).

Sir William Macleay's Diary, 1879, records osteological specimens (human) from Fiji, Mallicolo and other islands, purchased from Mr. A. Boyd.

Dr. Cox (25/1/1882) refers to purchases from A. Boyd, Fiji, from Espiritu Santo, Solomons and New Hebrides.

This series of 14 crania accords well with Flower's description of the cranial characters of Fijians (Flower, 1880, pp. 153-173).

VITI LEVU.

96. Skull. Vatu Co. on paper label pasted on left temporal. Face and base missing through weathering.
97. Skull. Vatu Co. E. Coast, Viti Levu Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1659? on right temporal. Vatu Catho. E. Coast Viti Levu on paper label on left temporal.
98. Skull. Vatu Co. E. Viti Levu Macleay Museum in ink on frontal. Paper labels on right temporal Sie XIII No. 1657, and Vatu Co. E. Viti Levu.
99. Skull. Viti Levu Macleay Museum in ink on frontal. Also paper label Sie XIII. No. 1658.

Summary.

The four crania Nos. 96-99 from Viti Levu are badly weathered and look like trade specimens. As a contrast group with the previous group they are of some value; they appear to be more hypsicephalic, particularly No. 99, and more prognathic, particularly No. 97, than the Fijian Group. No. 98, probably male, has some Australoid affinities in the facial skeleton and in the inferior part of the squamous occipital.

VARIOUS MELANESIAN ISLANDS.

100. Skull. Pentecost in ink on paper label pasted on left fronto-parietal.

This skull has been artificially moulded (deformed). The technique appears to have been circumferential binding in the coronal plane, so that the frontal has been moderately flattened, the squamous occipital pushed back and up. The binding has been applied most effectively on the anterior parietals, so that the skull presents in norma lateralis a moderate hump on the frontal, a more pronounced hump on the posterior parietals, and a wide saddle between the two humps. This form of deformation is rather different from, and of less degree than, the Malekulan deformation. This skull has a metopic suture and a left epipteric bone.

101. Skull. Pentecost Is. New Hebrides in ink on paper label pasted on left fronto-parietal.

This skull is artificially moulded like No. 100, but to a much less pronounced stage.

102. Skull. Lakoni (Gama) Banks Group in ink on paper label pasted on right fronto-parietal.

Morphologically this small skull is very like the Fiji crania Nos. 82-95.

103. Skull and mandible. Solomon Is. printed in ink on the frontal.

A well-preserved skull, the mandible is attached by string at the condyles and mandibular fossae.

Summary.

Crania Nos. 96-103 probably represent purchases from Archibald Boyd between 1876 and 1881. Pentecost and Banks Islands are in the New Hebrides Group, which, according to most authorities, is populated by at least three racial elements, possibly four or five. These skulls permit of some comparison with the following series of 26 crania from Mallicolo, also in the New Hebrides.

MALLICOLO.

104. Skull. Mallicolo Macleay Museum in ink on frontal. Paper label Sie XIII. No. 166f on frontal. III on left temporal.
105. Skull. Mallicolo Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1664 tied to palate. IV on left temporal.
106. Skull. Mallicolo in ink on frontal.
107. Skull. Mallicolo Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1665 on right parietal.
108. Skull. Mallicolo Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1666.
109. Skull. Mallicolo Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1667 on left parietal.
110. Skull and mandible. Mallicolo in ink on frontal. Paper label Sie XIII. No. 1668. II on mandible and temporal.
111. Skull. Mallicolo Macleay Museum in ink on frontal. Paper label Sie XIII. No. 1669.
112. Skull and mandible. Mallicolo in ink on frontal and on right mandible. IV on left mandible.

The mandible does not fit cranium No. 105; it undoubtedly belongs to No. 112, which it fits perfectly. The posterior half of the vault is blackened, and the nares and orbits are stuffed with fibre.

113. Skull. No documentation. Posterior half of the vault is blackened.
114. Skull. Mallicolo in ink on frontal.
115. Skull and mandible. Mallicolo in ink on frontal.

- 116. Skull. Mallicolo in ink on frontal.
- 117. Skull. No documentation.
- 118. Skull. Mallicolo in ink on frontal.
- 119. Skull. Mallicolo in ink on frontal.
- 120. Skull. Mallicolo in ink on frontal.
- 121. Skull. Mallicolo in ink on frontal.
- 122. Skull. No documentation.

Of these 19 crania, three have no name and no label attached. These three, Nos. 113, 117, and 122, have been arranged in the series so that they lie adjacent to the crania which they most closely resemble. The 19 crania all present artificial moulding in the same technique but of varying degrees. Nos. 104, 105, 113 and 122 possess a metopic suture. No. 108 shows advanced obliteration of the cranial sutures. All except Nos. 108 and 116 present epipteric bones. In eleven crania epipteries occur bilaterally, in six crania epipteric formation is unilateral, four being left-sided, two right-sided, in position. The crania all exhibit occipital elongation, sloping up and back from low flattened frontals; prominent brow ridges, moderately wide zygomatics, high and wide palates, and facial and alveolar prognathism of moderate degree occur in all these skulls.

- 123. Skull and mandible. No documentation.

Presents a complete Rambaramp reconstruction, with a wig and feathers on the vault, and sticks supporting the neck.

- 124. Skull and mandible. Mallicolo Macleay Museum in ink on frontal region. Sie XIII No. 1661. in ink on paper label tied to left zygomatic arch.

Rambaramp reconstruction.

- 125. Skull and mandible. No documentation.

Rambaramp reconstruction, including wig.

- 126. Skull and mandible. Mallicolo Macleay Museum in ink on frontal region. Sie XIII. No. 1662 in ink on paper label tied to left mandible.

Rambaramp reconstruction, including wig.

- 127. Skull and mandible. No documentation.

Rambaramp reconstruction of the face. A perfect set of teeth.

- 128. Skull and mandible. Mallicolo in ink on frontal bone.

Rambaramp reconstruction on face and on floor of mouth; remainder of skull bare. A full set of teeth, upper central incisors have a peg-top appearance unlike those of No. 127. An epipteric bone is visible on the left side.

- 129. Skull and mandible. No documentation.

Rambaramp reconstruction.

These seven crania include four without name or label, but they can quite safely be accepted as belonging to the same series; in morphology and in Rambaramp reconstruction they are very similar and characteristic of South Malekula.

These Malekulan crania can be fairly well substantiated historically. The Macleay diary entry of 15/3/1879 records receipt and subsequent purchase from Archibald Boyd, of human osteological specimens from Mallicolo; on 25/3/1879 Masters exhibited "two heads of Malicolo Chiefs". Macleay in his diary of 26/3/1879 records "two skulls of Chiefs of Island of Mallicolo by Mr. Masters from my Museum". Harper (1901) exhibited Malekulan crania; and finally there is the evidence of the serial numbers on two heads and five bare skulls in sequence from Nos. 1661-1669.

Harrisson refers to the "interesting long-headed folk farther south" who adorn the skulls of the dead with bright coloured clay and "good spider" web hair". He refers one to Deacon for a fuller account (Harrisson, 1937, pp. 417, 423).

Flower, as early as 1881, was fully aware of the functional intent of the reconstruction when he used the term "Monumental heads", i.e. memorials in the modelled likeness of the dead (Flower, 1881, pp. 75-81).

Deacon gives such a complete description of the manufacture and the ingredients in the reconstruction that there is no point in repeating it (Deacon, 1934, p. 544). Both he and Harrisson point out that the face is modelled to resemble the dead as closely as possible, that degree of care in decoration depends on the former rank of the owner, and that interest in the reconstructed heads persists for no more than a year, when they are thrown into the clan ossuary.

The technique of execution in South Malekulan reconstructions is standard and is rather different from reconstructions in any other region. In colour and amount of decoration, however, variation does occur. The heads in the Macleay Museum are a plain black, in the Anatomy Department there are similar elongated heads, with the Malekulan reconstruction, but the colour is pink. Reconstructions appear to be confined to male skulls; the women had their own ceremonials, but the Rambaramp is not part of them.

It may be suggested, therefore, that Masters and Macleay, and possibly Archibald Boyd also, were not necessarily accurate in referring to crania Nos. 124 and 126 (i.e. Sie XIII, Nos. 1661-1662) as heads of chiefs. Cranium No. 123 is far more complete and elaborate in its reconstruction than these two and might possibly be the young son (perhaps aged 15) of a chief.

Cranial artificial deformation is widely mentioned in the literature, but intensive work on the subject appears to be less than in many other cranial fields. Among fairly recent work, Cilento, 1921, described seven deformed crania from New Britain. Hambly has dealt fully with the craniometry of Ambrym Island, 20 miles east of Malekula, and proposed to use these undeformed Ambrym crania as a control for comparison with 55 Malekulan deformed crania collected by A. B. Lewis in 1909-13 (Hambly, 1946, pp. 1, 2). So far as the writer knows, the study has not yet eventuated.

Of approximately 35 artificially deformed crania in the Anatomy Department, University of Sydney, 13 appear to be definitely from Malekula. There are others in the Australian Museum, Sydney.

The writer hopes to combine these with the 26 Macleay specimens and carry out an intensive study of the Malekulan cranium. A minor start has already been made at the suggestion of Professor A. N. Burkitt.

Geography.—Malekula was formerly spelt Mallicolo, sometimes Mallicollo; in the report of Masters' exhibit it appears as Malicolo. The old navigators give a variety of spellings—Mannicana, Manicolla, etc. It is the second largest island of the New Hebrides group, lying south of Espiritu Santo and west of Pentecost, Ambrym and Epi. The Maskelyne Archipelago is off the east coast. The Banks and Torres subgroups are at the northern end of the New Hebridean chain.

MUMMIFICATION.

A complete male obtained (16/8/1875) from a village at Treacherous Bay, Darnley Island, by Mr. Williams, first mate of the Chevert. It is extended on, and lashed to, a frame of wooden poles and displayed in a glass table case. Photographs of the specimen have been sent to other museums from time to time. Anatomists including Sir Grafton Elliot Smith have referred to it.

A complete Peruvian mummy. The technique accords with the classical descriptions of many writers on Peruvian evisceration and preservation. The body is more or less rigid in a position of foetal flexion.

MANDIBLES.

There are 13 spare mandibles. They have been tried against all the crania but do not fit any of them. One has Fiji Macleay Museum in ink on the right ramus, but does not fit any of the Fijian crania. One has New Zealand in ink on its inferior border, but does not fit any of the three New Zealand crania. The others have no labels. The majority are mildewed and non-European in appearance.

MISCELLANEOUS.

Three complete skeletons in perished canvas bags; they are in a good state of preservation and covered with sandy soil, suggesting exhumation. No documentation. Possibly Darnley Islanders obtained by the Chevert Expedition (1875).

Finally, there are two drawers filled with Aboriginal skeletal fragments, mostly from coastal New South Wales.

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